

Health informatics—Device interoperability

**Part 10420:
Personal health device communication—
Device specialization—
Body composition analyzer**

IEEE Engineering in Medicine and Biology Society

Developed by the
IEEE 11073™ Standards Committee

IEEE Std 11073-10420™-2020
(Revision of IEEE Std 11073-10420-2010)

Health informatics—Device interoperability

**Part 10420: Personal health device
communication—Device
specialization—
Body composition analyzer**

Developed by the

IEEE 11073™ Standards Committee
of the
IEEE Engineering in Medicine and Biology Society

Approved 4 June 2020

IEEE SA Standards Board

Abstract: Within the context of the ISO/IEEE 11073 family of standards for device communication, a normative definition of the communication between personal body composition analyzer agents and managers (e.g., cell phones, personal computers, personal health appliances, set-top boxes) is established by this standard in a manner that enables plug-and-play interoperability. It leverages appropriate portions of existing standards including ISO/IEEE 11073 terminology, information models, application profile standards, and transport standards. It specifies the use of specific term codes, formats, and behaviors in telehealth environments to restrict optionality in base frameworks in favor of interoperability. This standard defines a common core of communication functionality for personal telehealth body composition analyzers. In this context, the phrase “body composition analyzer” is used broadly to cover analyzing devices that measure body impedances and compute the various body components including body fat from the impedance.

Keywords: body composition analyzer, IEEE 11073-10420™, medical device communication, personal health devices

The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA

Copyright © 2020 by The Institute of Electrical and Electronics Engineers, Inc.
All rights reserved. Published 17 November 2020. Printed in the United States of America.

IEEE is a registered trademark in the U.S. Patent & Trademark Office, owned by The Institute of Electrical and Electronics Engineers, Incorporated.

PDF: ISBN 978-1-5044-6812-1 STD24244
Print: ISBN 978-1-5044-6813-8 STDPD24244

IEEE prohibits discrimination, harassment, and bullying.

For more information, visit <http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html>.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

Important Notices and Disclaimers Concerning IEEE Standards Documents

IEEE Standards documents are made available for use subject to important notices and legal disclaimers. These notices and disclaimers, or a reference to this page (<https://standards.ieee.org/ipr/disclaimers.html>), appear in all standards and may be found under the heading “Important Notices and Disclaimers Concerning IEEE Standards Documents.”

Notice and Disclaimer of Liability Concerning the Use of IEEE Standards Documents

IEEE Standards documents are developed within the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (IEEE SA) Standards Board. IEEE develops its standards through an accredited consensus development process, which brings together volunteers representing varied viewpoints and interests to achieve the final product. IEEE Standards are documents developed by volunteers with scientific, academic, and industry-based expertise in technical working groups. Volunteers are not necessarily members of IEEE or IEEE SA, and participate without compensation from IEEE. While IEEE administers the process and establishes rules to promote fairness in the consensus development process, IEEE does not independently evaluate, test, or verify the accuracy of any of the information or the soundness of any judgments contained in its standards.

IEEE makes no warranties or representations concerning its standards, and expressly disclaims all warranties, express or implied, concerning this standard, including but not limited to the warranties of merchantability, fitness for a particular purpose and non-infringement. In addition, IEEE does not warrant or represent that the use of the material contained in its standards is free from patent infringement. IEEE standards documents are supplied “AS IS” and “WITH ALL FAULTS.”

Use of an IEEE standard is wholly voluntary. The existence of an IEEE Standard does not imply that there are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to the scope of the IEEE standard. Furthermore, the viewpoint expressed at the time a standard is approved and issued is subject to change brought about through developments in the state of the art and comments received from users of the standard.

In publishing and making its standards available, IEEE is not suggesting or rendering professional or other services for, or on behalf of, any person or entity, nor is IEEE undertaking to perform any duty owed by any other person or entity to another. Any person utilizing any IEEE Standards document, should rely upon his or her own independent judgment in the exercise of reasonable care in any given circumstances or, as appropriate, seek the advice of a competent professional in determining the appropriateness of a given IEEE standard.

IN NO EVENT SHALL IEEE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO: THE NEED TO PROCURE SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE PUBLICATION, USE OF, OR RELIANCE UPON ANY STANDARD, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE AND REGARDLESS OF WHETHER SUCH DAMAGE WAS FORESEEABLE.

Translations

The IEEE consensus development process involves the review of documents in English only. In the event that an IEEE standard is translated, only the English version published by IEEE is the approved IEEE standard.

Official statements

A statement, written or oral, that is not processed in accordance with the IEEE SA Standards Board Operations Manual shall not be considered or inferred to be the official position of IEEE or any of its committees and shall not be considered to be, nor be relied upon as, a formal position of IEEE. At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that the presenter's views should be considered the personal views of that individual rather than the formal position of IEEE, IEEE SA, the Standards Committee, or the Working Group.

Comments on standards

Comments for revision of IEEE Standards documents are welcome from any interested party, regardless of membership affiliation with IEEE or IEEE SA. However, **IEEE does not provide interpretations, consulting information, or advice pertaining to IEEE Standards documents.**

Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments. Since IEEE standards represent a consensus of concerned interests, it is important that any responses to comments and questions also receive the concurrence of a balance of interests. For this reason, IEEE and the members of its Societies and Standards Coordinating Committees are not able to provide an instant response to comments, or questions except in those cases where the matter has previously been addressed. For the same reason, IEEE does not respond to interpretation requests. Any person who would like to participate in evaluating comments or in revisions to an IEEE standard is welcome to join the relevant IEEE working group. You can indicate interest in a working group using the Interests tab in the Manage Profile & Interests area of the [IEEE SA myProject system](#). An IEEE Account is needed to access the application.

Comments on standards should be submitted using the [Contact Us](#) form.

Laws and regulations

Users of IEEE Standards documents should consult all applicable laws and regulations. Compliance with the provisions of any IEEE Standards document does not constitute compliance to any applicable regulatory requirements. Implementers of the standard are responsible for observing or referring to the applicable regulatory requirements. IEEE does not, by the publication of its standards, intend to urge action that is not in compliance with applicable laws, and these documents may not be construed as doing so.

Data privacy

Users of IEEE Standards documents should evaluate the standards for considerations of data privacy and data ownership in the context of assessing and using the standards in compliance with applicable laws and regulations.

Copyrights

IEEE draft and approved standards are copyrighted by IEEE under US and international copyright laws. They are made available by IEEE and are adopted for a wide variety of both public and private uses. These include both use, by reference, in laws and regulations, and use in private self-regulation, standardization, and the promotion of engineering practices and methods. By making these documents available for use and adoption by public authorities and private users, IEEE does not waive any rights in copyright to the documents.

Photocopies

Subject to payment of the appropriate licensing fees, IEEE will grant users a limited, non-exclusive license to photocopy portions of any individual standard for company or organizational internal use or individual, non-commercial use only. To arrange for payment of licensing fees, please contact Copyright Clearance Center, Customer Service, 222 Rosewood Drive, Danvers, MA 01923 USA; +1 978 750 8400;

<https://www.copyright.com/>. Permission to photocopy portions of any individual standard for educational classroom use can also be obtained through the Copyright Clearance Center.

Updating of IEEE Standards documents

Users of IEEE Standards documents should be aware that these documents may be superseded at any time by the issuance of new editions or may be amended from time to time through the issuance of amendments, corrigenda, or errata. An official IEEE document at any point in time consists of the current edition of the document together with any amendments, corrigenda, or errata then in effect.

Every IEEE standard is subjected to review at least every 10 years. When a document is more than 10 years old and has not undergone a revision process, it is reasonable to conclude that its contents, although still of some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that they have the latest edition of any IEEE standard.

In order to determine whether a given document is the current edition and whether it has been amended through the issuance of amendments, corrigenda, or errata, visit [IEEE Xplore](#) or [contact IEEE](#). For more information about the IEEE SA or IEEE's standards development process, visit the IEEE SA Website.

Errata

Errata, if any, for all IEEE standards can be accessed on the [IEEE SA Website](#). Search for standard number and year of approval to access the web page of the published standard. Errata links are located under the Additional Resources Details section. Errata are also available in [IEEE Xplore](#). Users are encouraged to periodically check for errata.

Patents

IEEE Standards are developed in compliance with the [IEEE SA Patent Policy](#).

Attention is called to the possibility that implementation of this standard may require use of subject matter covered by patent rights. By publication of this standard, no position is taken by the IEEE with respect to the existence or validity of any patent rights in connection therewith. If a patent holder or patent applicant has filed a statement of assurance via an Accepted Letter of Assurance, then the statement is listed on the IEEE SA Website at <https://standards.ieee.org/about/sasb/patcom/patents.html>. Letters of Assurance may indicate whether the Submitter is willing or unwilling to grant licenses under patent rights without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to obtain such licenses.

Essential Patent Claims may exist for which a Letter of Assurance has not been received. The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patents Claims, or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from the IEEE Standards Association.

IMPORTANT NOTICE

IEEE Standards do not guarantee or ensure safety, security, health, or environmental protection, or ensure against interference with or from other devices or networks. IEEE Standards development activities consider research and information presented to the standards development group in developing any safety recommendations. Other information about safety practices, changes in technology or technology implementation, or impact by peripheral systems also may be pertinent to safety considerations during implementation of the standard. Implementers and users of IEEE Standards documents are responsible for determining and complying with all appropriate safety, security, environmental, health, and interference protection practices and all applicable laws and regulations.

Participants

At the time this revision was submitted to the IEEE SA Standards Board for approval, the Personal Health Devices Working Group had the following membership:

Daidi Zhong and **Michael J. Kirwan**, *Co-Chairs*

Linling Wang and **Sungkee Lee**, *Co-Vice Chairs*

Karsten Aalders
Charles R. Abbruscato
Nabil Abujbara
Maher Abuzaid
James Agnew
Manfred Aigner
Jorge Alberola
David Aparisi
Lawrence Arne
Diego B. Arquillo
Serafin Arroyo
Muhammad Asim
Kit August
Doug Baird
David Baker
Anindya Bakshi
Ananth Balasubramanian
Sunlee Bang
M. Jonathan Barkley
Gilberto Barrón
David Bean
John Bell
Olivia Bellamou-Huet
Rudy Belliardi
Daniel Bernstein
George A. Bertos
Chris Biernacki
Ola Björnsne
Thomas Blackadar
Thomas Bluethner
Douglas P. Bogia
Xavier Boniface
Shannon Boucousis
Julius Broma
Lyle G. Bullock Jr.
Bernard Burg
Chris Burns
Jeremy Byford-Rew
Satya Calloji
Carole C. Carey
Craig Carlson
Santiago Carot-Nemesio
Randy W. Carroll
Seungchul Chae
Peggy Chien
David Chiu
Jinyong Choi
Chia-Chin Chong
Saeed A. Choudhary
Jinhan Chung
John A. Cogan
John T. Collins
Cory Condek

Todd H. Cooper
David Cornejo
Douglas Coup
Nigel Cox
Hans Crommenacker
Tomio Crosley
Allen Curtis
Jesús Daniel Trigo
David Davenport
Russell Davis
Sushil K. Deka
Ciro de la Vega
Pedro de-las-Heras-Quiros
Jim Dello Stritto
Kent Dicks
Hyoungdo Do
Jonathan Dougherty
Xiaolian Duan
Sourav Dutta
Jakob Ehrensvarð
Fredrik Einberg
Javier Escayola Calvo
Mark Estes
Leonardo Estevez
Bosco T. Fernandes
Christoph Fischer
Morten Flintrup
Joseph W. Forler
Russell Foster
Eric Freudenthal
Matthias Frohner
Ken Fuchs
Jing Gao
Marcus Garbe
John Garguilo
Liang Ge
Rick Geimer
Igor Gejdos
Ferenc Gerbovics
Alan Godfrey
Nicolae Goga
Julian Goldman
Raul Gonzalez Gomez
Chris Gough
Channa Gowda
Charles M. Gropper
Amit Gupta
Jeff Guttmacher
Rasmus Haahr
Christian Habermann
Michael Hagerty
Jerry Hahn
Robert Hall

Shu Han
Nathaniel Hamming
Rickey L. Hampton
Sten Hanke
Aki Harma
Jordan Hartmann
Kai Hassing
Wolfgang Heck
Nathaniel Heintzman
Charles Henderson
Jun-Ho Her
Helen B. Hernandez
Timothy L. Hirou
Allen Hobbs
Alex Holland
Arto Holopainen
Kris Holtzclaw
Robert Hoy
Anne Huang
Ron Huby
David Hughes
Robert D. Hughes
Jiyoung Huh
Hugh Hunter
Philip O. Isaacson
Atsushi Ito
Michael Jaffe
Praduman Jain
Hu Jin
Danny Jochelson
Akiyoshi Kabe
Steve Kahle
Tomio Kamioka
James J. Kang
Kei Kariya
Andy Kaschl
Junzo Kashihara
Colin Kennedy
Ralph Kent
Laurie M. Kermes
Ahmad Kheirandish
Junhyung Kim
Minho Kim
Min-Joon Kim
Taekon Kim
Tetsuya Kimura
Alfred Kloos
Jeongmee Koh
Jean-Marc Koller
John Koon
Patty Krantz
Raymond Krasinski
Alexander Kraus

Ramesh Krishna
Geoffrey Kruse
Falko Kuester
Rafael Lajara
Pierre Landau
Jaechul Lee
JongMuk Lee
Kyong Ho Lee
Rami Lee
Woojae Lee
Qiong Li
Xiangchen Li
Zhuofang Li
Patrick Lichter
Jisoon Lim
Joon-Ho Lim
Xiaoming Liu
Wei-Jung Lo
Charles Lowe
Don Ludolph
Christian Luszick
Bob MacWilliams
Srikanth Madhurbotheswaran
Miriam L. Makhlof
Romain Marmot
Sandra Martinez
Miguel Martínez de Espronceda
Cámara
Peter Mayhew
Jim McCain
LászlóMeleg
Alexander Mense
Behnaz Minaei
Jinsei Miyazaki
Erik Moll
Darr Moore
Chris Morel
Carsten Mueglitz
Soundharya Nagasubramanian
Alex Neefus
Trong-Nghia Nguyen-Dobinsky
Michael E. Nidd
Jim Niswander
Hiroaki Niwamoto
Thomas Norgall
Yoshiteru Nozoe
Abraham Ofek
Brett Olive
BegonyaOtal
Marco Paleari
Bud Panjwani
Carl Pantiskas
Harry P. Pappas
Hanna Park

Jong-Tae Park
Myungeun Park
Soojun Park
Phillip E. Pash
TongBi Pei
Soren Petersen
James Petisce
Peter Piction
Michael Pliskin
Varshney Prabodh
Jeff Price
Harald Prinzhorn
Harry Qiu
Tanzilur Rahman
Phillip Raymond
Terrie Reed
Barry Reinhold
Brian Reinhold
Melvin I. Reynolds
John G. Rhoads
Jeffrey S. Robbins
Chris Roberts
Moskowitz Robert
Stefan Robert
Scott M. Robertson
Timothy Robertson
David Rosales
Bill Saltzstein
Giovanna Sannino
Jose A. Santos-Cadenas
Stefan Sauermann
John Sawyer
Alois Schloegl
Paul S. Schluter
Mark G. Schnell
Richard A. Schrenker
Antonio Scorpiniti
KwangSeok Seo
Riccardo Serafin
Sid Shaw
Frank Shen
Min Shih
Mazen Shihabi
Redmond Shouldice
Sternly K. Simon
Marjorie Skubic
Robert Smith
Ivan Soh
Motoki Sone
Emily Sopensky
Rajagopalan Srinivasan
Nicholas Steblay
Lars Steubesand

John (Ivo) Stivoric
Raymond A. Strickland
Chandrasekaran Subramaniam
Hermann Suominen
Lee Surprenant
Ravi Swami
Ray Sweidan
Na Tang
Haruyuyki Tatsumi
Isabel Tejero
Tom Thompson
Jonas Tirén
Janet Traub
Gary Tschautscher
Masato Tsuchid
Ken Tubman
Akib Uddin
Sunil Unadkat
Fabio Urbani
Philipp Urbauer
Laura Vanzago
Alpo Värri
Andrei Vasilateanu
Dalimar Velez
Martha Velezis
Rudi Voon
Barry Vornbrock
Isobel Walker
David Wang
Jerry P. Wang
Yao Wang
Yi Wang
Steve Warren
Fujio Watanabe
Toru Watsuji
Kathleen Wible
Paul Williamson
Jan Wittenber
Jia-Rong Wu
Will Wykeham
Ariton Xhafa
Ricky Yang
Melanie S. Yeung
Qiang Yin
Done-Sik Yoo
Zhi Yu
Jianchao Zeng
Jason Zhang
Jie Zhao
Thomas Zhao
Yuanhong Zhong
Qing Zhou
Miha Zoubek
Szymon Zyskoter

The following members of the individual Standards Association balloting group voted on this revision. Balloters may have voted for approval, disapproval, or abstention.

Bjoern Andersen
Pradeep Balachandran
Lyle G. Bullock Jr.
Juan Carreon
Pin Chang
Malcolm Clarke
David Fuschi
Randall Groves
Werner Hoelzl

Raj Jain
Stuart Kerry
Yongbum Kim
Raymond Krasinski
Javier Luiso
H. Moll
Nick S. A. Nikjoo
Bansi Patel

Beth Pumo
Stefan Schlichting
Thomas Starai
Mark-Rene Uchida
John Vergis
Lisa Ward
Yu Yuan
Oren Yuen
Daidi Zhong

When the IEEE SA Standards Board approved this revision on 4 June 2020, it had the following membership:

Gary Hoffman, *Chair*
Jon Walter Rosdahl, *Vice Chair*
John D. Kulick, *Past Chair*
Konstantinos Karachalios, *Secretary*

Ted Burse
Doug Edwards
J. Travis Griffith
Grace Gu
Guido R. Hiertz
Joseph L. Koepfinger*

David J. Law
Howard Li
Dong Liu
Kevin Lu
Paul Nikolich
Damir Novosel
Dorothy Stanley

Mehmet Ulema
Lei Wang
Sha Wei
Philip B. Winston
Daidi Zhong
Jingyi Zhou

*Member Emeritus

Introduction

This introduction is not part of IEEE Std 11073-10420-2020, Health informatics—Device interoperability—Part 10420: Personal health device communication—Device specialization—Body composition analyzer.

ISO/IEEE 11073 standards enable communication between medical devices and external computer systems. Within the context of the ISO/IEEE 11073 family of standards for device communication, this standard establishes a normative definition of the communication between body composition analyzer agents and managers (e.g., cell phones, personal computers, personal health appliances, set-top boxes) in a manner that enables plug-and-play interoperability. It leverages appropriate portions of existing standards including ISO/IEEE 11073 terminology, information models, application profile standards, and transport standards. It specifies the use of specific term codes, formats, and behaviors in telehealth environments to restrict optionality in base frameworks in favor of interoperability. This standard defines a common core of communication functionality for personal telehealth body composition analyzers. In this context, the phrase “body composition analyzer” is used broadly to cover analyzing devices that measure body impedances and compute the various body components including body fat from the impedance.

The major changes in this revision include the following:

- The addition of basal metabolism numeric object, body muscle numeric object, and bioimpedance analysis method enumeration object
- The use of base offset time
- An upgrade of the baseline protocol

Contents

1. Overview	13
1.1 Scope	13
1.2 Purpose	13
1.3 Context	13
1.4 Word usage	14
2. Normative references.....	14
3. Definitions, acronyms, and abbreviations	15
3.1 Definitions	15
3.2 Acronyms and abbreviations	16
4. Introduction to ISO/IEEE 11073 personal health devices	16
4.1 General	16
4.2 Introduction to IEEE 11073-20601 modeling constructs	17
4.2.1 General.....	17
4.2.2 Domain information model (DIM).....	17
4.2.3 Service model.....	17
4.2.4 Communication model.....	17
4.2.5 Implementing the models.....	17
4.3 Compliance with other standards.....	17
5. Body composition analyzer concepts and modalities	18
5.1 General	18
5.2 Body fat	18
5.3 Body height	18
5.4 Body weight.....	18
5.5 Body mass index.....	19
5.6 Fat free mass.....	19
5.7 Soft lean mass	19
5.8 Body water.....	19
5.9 Basal metabolic rate.....	19
5.10 Bioimpedance analysis method	19
5.11 Body muscle	19
6. Body composition analyzer DIM	20
6.1 Overview	20
6.2 Class extensions.....	20
6.3 Object instance diagram	20
6.4 Types of configuration.....	21
6.4.1 General.....	21
6.4.2 Standard configuration.....	21
6.4.3 Extended configuration.....	22
6.5 Medical device system (MDS) object.....	22
6.5.1 MDS object attributes	22
6.5.2 MDS object methods.....	23
6.5.3 MDS object events.....	25
6.5.4 Other MDS services.....	26
6.6 Numeric objects.....	26
6.6.1 General.....	26
6.6.2 Body fat.....	26
6.6.3 Body height.....	27

6.6.4	Body weight	27
6.6.5	Body mass index	37
6.6.6	Fat free mass	38
6.6.7	Soft lean mass	39
6.6.8	Body water	40
6.6.9	Basal metabolic rate	41
6.6.10	Body muscle	42
6.7	Real-time sample array objects	43
6.8	Enumeration objects	43
6.8.1	General	43
6.8.2	Bioimpedance analysis method	43
6.9	PM-store objects	44
6.10	Scanner objects	44
6.11	Class extension objects	44
6.12	Body composition analyzer DIM extensibility rules	44
7.	Body composition analyzer service model	44
7.1	General	44
7.2	Object access services	44
7.3	Object access event report services	45
8.	Body composition analyzer communication model	47
8.1	Overview	47
8.2	Communications characteristics	47
8.3	Association procedure	47
8.3.1	General	47
8.3.2	Agent procedure—association request	48
8.3.3	Manager procedure—association response	48
8.4	Configuring procedure	49
8.4.1	General	49
8.4.2	Body composition analyzer—standard configuration	49
8.5	Operating procedure	51
8.5.1	General	51
8.5.2	GET body composition analyzer MDS attributes	51
8.5.3	Measurement data transmission	52
8.6	Time synchronization	52
9.	Test associations	52
9.1	General	52
9.2	Behavior with standard configuration	52
9.3	Behavior with extended configurations	53
10.	Conformance	53
10.1	Applicability	53
10.2	Conformance specification	53
10.3	Levels of conformance	53
10.3.1	General	53
10.3.2	Conformance level 1: Base conformance	53
10.3.3	Conformance level 2: Extended nomenclature (ASN.1 and/or IEEE 11073-10101)	54
10.4	Implementation conformance statements (ICSs)	54
10.4.1	General format	54
10.4.2	General ICS	54
10.4.3	DIM MOC ICS	56
10.4.4	MOC attribute ICS	56
10.4.5	MOC notification ICS	57
10.4.6	MOC nomenclature ICS	58

Annex A (informative) Bibliography	59
Annex B (normative) Any additional ASN.1 definitions	60
Annex C (normative) Allocation of identifiers.....	61
Annex D (informative) Message sequence examples.....	62
Annex E (informative) Protocol data unit examples	64
Annex F (informative) Revision history.....	76

Health informatics—Device interoperability

Part 10420: Personal health device communication—Device specialization—Body composition analyzer

1. Overview

1.1 Scope

Within the context of the ISO/IEEE 11073 family of standards for device communication, this standard establishes a normative definition of the communication between personal body composition analyzer agents and managers (e.g., cell phones, personal computers, personal health appliances, set-top boxes) in a manner that enables plug-and-play interoperability. It leverages appropriate portions of existing standards including ISO/IEEE 11073 terminology, information models, application profile standards, and transport standards. It specifies the use of specific term codes, formats, and behaviors in telehealth environments to restrict optionality in base frameworks in favor of interoperability. This standard defines a common core of communication functionality for personal telehealth body composition analyzers. In this context, the phrase “body composition analyzer” is used broadly to cover analyzing devices that measure body impedances and compute the various body components including body fat from the impedance.

1.2 Purpose

This standard addresses a need for an openly defined, independent standard for controlling information exchange to and from personal health devices and managers (e.g., cell phones, personal computers, personal health appliances, set-top boxes). Interoperability is key to growing the potential market for these devices and enabling people to be better informed participants in the management of their health.

1.3 Context

See IEEE Std 11073-20601™ for an overview of the environment within which this standard is written.¹

This standard defines the device specialization for the body composition analyzer, being a specific agent type, and it provides a description of the device concepts, its capabilities, and its implementation according to this standard.

¹ Information on normative references can be found in Clause 2.